

Updating the epidemiological status of Peste des petits ruminants in Uganda through research for development

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Uganda has a population of more than 15 million sheep and goats and is endemic for Peste des petits ruminants (PPR). The disease was first confirmed in the pastoralist Karamoja region in July 2007, and the 2007-2008 outbreak was responsible for the death of 0.5 million sheep and goats causing an estimated loss of USD 15 million. By August 2008, the entire Karamoja region was affected. Active surveillance in 2011 indicated that approximately one quarter of the country had serologically positive samples for PPR. New outbreaks occurred in May 2012, July 2014 and 2017 from the Northeast to Southwest of the country. PPR now affects almost the whole country.

In 2019, the research for development project “[Boosting Uganda’s Investment for Livestock Development](#)” (BUILD), was launched. The PPR component was designed to contribute to the WOA/FAO Global Eradication Programme. One of the activities aims to update the epidemiological status of PPR in the country through streamlining and conducting outbreak investigations. Between January 2020 and August 2021, we investigated 21 putative outbreaks across the country. Of 698 sheep and goat samples, 388 (55.6%) tested positive using competitive ELISA and 21 of the 388 seropositive samples tested positive using RT-PCR, attributed to outbreaks in six of the 21 districts investigated. Simultaneously, training in participatory disease surveillance was implemented in 14 districts to enable communities in recognizing and reporting suspected outbreaks.

This led to the procurement and administration of more than 1 million doses of vaccines by the Ministry of Agriculture between 2019-2021. An additional 1 million doses of thermostable vaccine were procured and utilized in the pastoral areas of Northern Uganda, in partnership with USAID/University of Florida. Spatio-temporal analysis of archived outbreak data, 2007-2017 guided risk-based vaccination. A post vaccination survey was conducted in six districts involving 1,480 sheep and goats to assess the effectiveness of vaccination and revealed a 97% seroconversion. The government’s National Animal Disease Diagnostic and Epidemiology Center participated in the 2020 interlaboratory proficiency test on diagnosis of PPR by serological methods and obtained a score of 100%. The pending activities are trainings on virus isolation as well as genotyping with technical support from Friedrich-Loeffler-Institute. Stakeholder engagement has improved through the establishment of decentralized multi-stakeholder platforms, engagement with the national PPR steering committee and across the border with PPR stakeholders in Burundi, the Democratic Republic of Congo, Kenya, Rwanda South Sudan, and Tanzania.

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